

H. F. Lewis

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Agricultural Education

A FARMER'S FAITH

- ¶ I believe in farming as a way to live and make a living.
- ¶ I believe in the dignity of my work. I want no man's patronage, preaching or pity.
- ¶ I believe in my soil. It will reward me in proportion to the thought, labor and love I give it.
- ¶ I believe in myself. My success depends on me more than on weather, luck or laws.
- ¶ I believe in my neighbors. My community, like my soil, returns to me as I give to it.
- ¶ I believe in co-operation, in thinking for myself and acting with my fellows.
- ¶ I believe that only a united agriculture can insure justice and prevent inequality.
- ¶ I believe in education. The more I know the greater my ability to seize opportunities and to be happy. I insist that my children be enabled to learn to be useful, intelligent men and women.
- ¶ I believe in conservation. I will leave a better farm than I took.
- ¶ I believe that living is the most important job in the world and I mean to plan my work so that my family and myself will have the time and means to enjoy life.
- ¶ I face the years ahead with confidence, hope and cheer.
- ¶ I believe in myself, my fellow man and a Supreme Being.
- ¶ I believe in farming.

—Andrew S. Wing.

*The only training for occupations
is thru occupations.—JOHN DEWEY.*

EDITORIAL COMMENT

AGRICULTURAL EDUCATION

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THE AGRICULTURAL TEACHER'S JOB

WITH the opening of a new school year, there will be a considerable number of men who are just beginning as workers in the field of vocational education in agriculture. It is quite probable that a majority of these new agricultural instructors are employed in their first teaching positions. Consequently, they are confronted with the problem of formulating clearly and definitely the nature of their new task.

There is no doubt that the vocational agriculture instructor has a responsibility that is somewhat different than that of the average high school teacher. His work requires both diversity and thoroughness of effort. However, the agricultural department must be considered as an integral part of the school system. It is essential, therefore, that each vocational agriculture instructor have his job well defined in order that his efforts may be properly directed.

There are two fundamental principles which are of paramount importance to the efficiency of every agriculture instructor's work. Each must be carefully considered if the greatest success is to be attained.

Successful classroom teaching is the first essential. Such instruction will represent far more than the mere acquisition of certain technical facts by the members of the class. Good teaching will involve clear thinking and the development of sound judgment ability on the part of every student. The most efficient teaching will also include the guidance and the spark of enthusiasm which will inspire farm boys to

develop character and have a wholesome love and appreciation of rural life.

As the other essential, we would suggest that the agriculture teacher's *directed practice program must tend toward an improved and permanent agriculture*. This means that each student's farm practice work must be carefully determined and must contribute to some worthy definite end. It is necessary that the follow-up work of the agriculture instructor be practical and in keeping with the needs of the individual and of the community. Such a program will require that the instructor make a careful survey of the farm problems and weigh well the counsel of the agricultural leaders in his community.

Thus the agricultural teacher's duties are many and of an exacting nature. To successfully perform these duties requires careful study and planning. Many teachers have found it helpful to prepare an outline of their program of work for the year. This outline should clearly state the objectives as well as the proposed means of accomplishing them. If each teacher will prepare such a program of work it will help him define his job.—F. E. M.

WHY CONTESTS?

THERE is more or less discussion regarding the value of any type of high school contests, due largely to the fact that many teachers emphasize winning more than instruction and are prone to put in much of their time coaching three or four men and neglecting the rest of the class. However, I believe the situation has improved much in the last few years and we find that contests have a real educational value.

From the standpoint of the boy, membership on a judging team carries with it considerable honor. It gives him a certain prestige among his own group and is evidence to his parents and neighbors that he has ability along certain lines. A trip to the college or wherever the contest is held has certain social values as well as the technical values he receives from the contest.

From the teacher's standpoint the contest may be used as a means of stimulating interest in the work as well as being a reward for conscientious effort.

From the standpoint of the college holding state contests there are several advantages. First, it keeps the teachers on their toes because they cannot hope to make a fair placing unless their teams are well trained in up-to-date developments and techniques. Second, a contest brings in the boys of the high school group so they may see the college

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SUBSCRIPTIONS TO AGRICULTURAL EDUCATION

AGRICULTURAL EDUCATION is published at cost by the Meredith Publishing Company. The editorial-managing staff serves gratis. These are the reasons why the magazine can be mailed monthly, the 12 months of the year, to each subscriber for \$1.

In order to make it possible to continue the plan of editing-managing-publishing the magazine, it will be necessary to depend upon each state supervisor of agricultural education, either personally or thru his vocational teachers' state association, to secure the subscription of each vocational agricultural teacher in his state. These subscriptions, both renewals and new subscriptions, may best be secured at the time of the annual conference of vocational teachers.

The list of subscribers in each state should be sent to the Meredith Publishing Company, Des Moines, Iowa. One check covering the total of the subscriptions should accompany the list.

In view of the generosity of the Meredith Publishing Company, every vocational agriculture teacher, teacher-trainer, trainee, and supervisor in the United States should subscribe to this excellent magazine. We should no longer impose upon the good graces of the publishers by letting them make up the deficit on the cost of this magazine each year. If each state will send in a check covering the amount of \$1 for a 12 months' subscription for each teacher and others indicated above, the publishers will not have a deficit to make good.

How many states will send in a list with remittances now in which every vocational agriculture teacher, supervisor, teacher-trainer, and trainee will be included?—Z. M. Smith, Business Manager.



Professional

The Nature of Learning

PAUL J. KRUSE, Cornell University, Ithaca, New York



P. J. Kruse

materials to be used, and skill with appropriate tools.

A philosophy of education may be expected to contribute to the teacher's understanding of the objectives of education as it concerns all of us and particularly as it involves his own pupils. Broad and intensive study of a field of knowledge and practice, whether agriculture, homemaking or history, should help him to the requisite degree of mastery of appropriate tools.

The knowledge of the raw materials upon which he works, namely human beings, will come from two sources. He will know a good deal about humans from the fact that he is one himself and has always associated with them. We all must know people in order to manage our everyday lives, as we do not all need to know chemistry. But a teacher needs more thorough and more exact knowledge of human behavior than he can ordinarily expect to acquire in this incidental fashion, if he is even to approach the degree of efficiency within his capacity to achieve. Particularly he needs to know human behavior as it relates to learning. A more or less systematic study of psychology represents the other source of knowledge of human behavior beyond that incidental to life itself. It is our purpose in this paper and the next to indicate a few guiding principles in the field of man's learning behavior.

What Is Learning?

At this moment I am engaged in writing the words here being set down. Time was when I could not write. Now I can and do. I have "learned to write," as we say in truth. And this means simply that whereas once the presence of writing materials and the desire or command to write could not possibly have brought forth appropriate behavior on my part, now they do so. Something has taken place between that time and this. That something consisted of behavior on my part. Nothing else in this world could by any chance have wrought this change in me but myself. This is one of the profoundest facts in nature. *Learning is the process by*

which an organism thru its own activity becomes changed as to its behavior.

Yesterday I was emotionally stirred on looking over some pictures of mountains, glaciers, trees, clouds, and streams sent to me five years ago by a friend in the Puget Sound country. I sat at my desk and thru the visual stimulus of arrangements of black and white on little pieces of paper experienced feelings such as these same bits of paper could at one time not possibly have evoked. I freely confess to a tightness in the throat and a smarting of the eyes as I looked at the pictures and re-read my friend's comments. Thru my earlier behavior in relation to trees, mountains, and the rest and also in relation to representations of such on paper, I had been changed so that the pictures brought forth the reactions of feeling mentioned above. It is worth noting that we may properly and usefully speak of learning to behave emotionally, to feel this way or that in given situations.

We have now illustrated learning in the realm of skills and feelings. Things known may of course also be the consequence of learning. You ask me to name a psychologist who has made large contributions along the line of the present discussion, and I answer, "Thorndike." At one time I could not have so replied, just as there was a time when I did not know that Albany is the capital of New York. I have learned.

Fundamental Principle of Association

Everyday observation as well as controlled experiment indicate clearly that *experiences that occur together tend to recur together*. The fact that when I see or think of Tiger Lilies I also get an image of my grandmother's garden is adequately accounted for by the fact that I did many times experience Tiger Lilies in grandmother's garden; that is, I experienced them together. One aspect of the whole situation, namely Tiger Lilies, is now sufficient to call up a picture of what I call my grandmother's garden.

Note particularly the expression *experienced together*. It is not sufficient that two things be within my range of vision at the same time, that is that they be *together*. They must be *experienced together*. It is altogether probable, for example, that there were other flowers associated with the Tiger Lilies, but they were not associated with them in my experience sufficiently so as to be a part of the picture which I now get. I did not sufficiently react to them together. On the contrary, the corner of the house where the Tiger Lilies grew is clearly a part of the picture.

Similarly in your teaching, for example, a boy may have been within the range of view of a given horse and at the same time heard the expression, Percheron, with little or no consequent probability that the sight of the horse again will call up the term Percheron or reversely. There must be a degree of "togetherness" of the two as Thorndike says. Similarly a teacher wonders why, despite the fact that he has practiced a boy repeatedly on a given proof for a theorem in geometry, the boy fails in the test. He may know the proof if you start him on it, but he has not sufficiently *experienced* this proof and the given theorem *together* so that the association is established.

Note also in the statement of the principle of association, the term *tend*. This is not a world of absolutes, but of tendencies. Just as vision or hearing may vary in clarity in different situations for the same person and for different people under the same external situation, so may this "experiencing together" vary from a weak to a vigorous thing. If, for example, a boy is interested in building a shelter for his pigs and an adult offers a suggestion for measuring rafters accurately, there may well be a very close *experiencing together* of what is said and a picture by the boy of how he shall proceed. The tendency for the boy to remember what was said, on the recurrence of a situation requiring the cutting of rafters may be very great.

On the contrary if a boy is told in a classroom how to cut rafters with no prospect of need for doing so, what is said may have very slight tendency to recur to the boy later when he undertakes to cut some. And here we have in essence the psychological basis of teaching by the project method.

The principle of association thus interpreted gives the basis of the psychology of learning. *All teaching resolves into providing conditions of experience for the pupil such that his later behavior will be in keeping with the objectives set up.*

The Principle of Self Activity

Consider again the definition of learning proposed early in this paper. *Learning is the process by which an organism thru its own activity becomes changed as to its behavior.* We have indicated that the fundamental principle basic to this process is that of association, whereby *experiences which occur together tend to recur together*. We shall now undertake to see the significance of *activity* on the part of the organism in this process of learning. We have recognized it in our stressing the importance of *experiencing* things together. But the

(Continued on the next page)

matter is so important as to warrant an emphasis from another point of view.

Many a parent, on observing behavior on the part of his child which he thinks unbecoming to one who has had the privilege of association with himself, the parent, is wont to remark, "You ought to know better than that." In truth the child probably should, in the sense that it would be desirable. Should he however be expected to under the circumstances?

We would all grant there should be more health in the world. Such a state would be desirable. But can it be expected under the conditions? Sound social philosophy recognizes that health for a group of people cannot be achieved thru forcing it upon them. The people must achieve it thru their own activity. There are communities where no case of diphtheria has occurred in a long time. In others there are still many deaths from this cause every year. The health regulations may well be as rigid in the second class of communities as in the first, but the people have not been brought to the point of doing the things that will prevent this scourge.

It would not only be desirable that the child "know better" than, for example, to handle his food with his fingers, but he might be expected to know and do better if he had been given every encouragement toward using appropriate implements. The example of the behavior of the parent may not be sufficient for many children, tho the importance of that as an aid cannot be questioned. Some means must be employed for getting the child to use the appropriate implement, however imperfectly, and with as much satisfaction to himself as possible.

Intellectual acceptance of the principle of self activity is so general that it has found expression in proverbial statements such as "We learn to do by doing," "Practice makes perfect." But violation of the principle in practice is so common as to itself have become proverbial.

The nature of the work in the teaching of vocational agriculture is such as to make observance of this principle easier than in many other subjects of study. Compare, for example, the difficulties in the way of the teacher of ancient history in getting pupils to be genuinely self-active, with the comparatively easy task of the teacher of agriculture who may utilize a boy's activity in the construction of a poultry house as the means for teaching principles of building construction. But this very ease of application of the principle carries with it an obligation for its fuller use. We shall therefore undertake in what follows to indicate some precautions that need to be observed by all teachers, and perhaps particularly by teachers of agriculture.

Precautions in Application of Principle of Self-Activity

As indicated in the first paper of this series good teaching implies clarity on the part of the teacher as to the objectives sought in any unit of teaching or learning. It frequently happens in the enthusiasm of doing things that we crave doing, such as hammering, sawing, climbing onto roofs, and so on, that we lose ourselves in the activity and so lose sight of the objective. This is not so serious in the case of the worker

himself: in fact it may well be within limits a very desirable outcome. However if the activity is one engaged in as a means to education, it is highly important that the teacher keep clearly before himself the educational objectives to be attained. Otherwise he may very well become engaged in constructing buildings rather than in building behavior on the part of his pupils. The self-activity, to be most effective, must always be appropriate to the end set up. This for the pupil may well be the completed structure; for the teacher it may be the acquisition of certain manipulative skills, the development of attitudes toward work, or the acquisition of knowledge of facts and principles of construction.

It seems appropriate here to suggest one of the limitations of the project as a teaching method. Unless carefully selected or guided it may very readily become too large for the educational objectives which are to be achieved. Since one of the real advantages of such a method of teaching attaches to completing the unit, it is important that the unit be such as can be completed without taking time properly belonging to other units in a well-balanced program. This point is made here because of the risk of the teacher's missing it in his enthusiasm for self-active behavior on the part of his pupils.

Another precaution to be observed in relation to securing self-activity on the part of learners may be mentioned. It frequently happens that a group project goes very well because those who are already most adept, and so least in need of practice, do the greater part of the work, because they can and enjoy doing it. The consequence may well be that in the interest of a job well done, the pupils who most need to engage in the activities involved are least active. The biblical saying, "To him that hath shall be given" finds exemplification here. It frequently requires skillful handling by the teacher to make use of the lesser gifted and still have a good product to show his supervisor. Obviously when the projects are individual this problem is minimized.

It seems desirable to call attention here to a distinction that carries a difference. Self-activity is sometimes interpreted to mean only self-initiated

activity. As the term is used in this paper it means rather self-propelled activity. It is true that the difference is one of degree rather than one of essence. But it is important, nevertheless.

By way of illustration, my writing of this paper was not self-initiated. It was initiated by the editor of this section of the journal. Had it not been that he asked me if I would write a series of papers, it is altogether unlikely that I should be writing this paper. Still I am manifesting true self-activity as we have used the term. I am motivated by satisfaction inherent in the doing and to be derived from the consequences. It may be worthwhile to mention that under the circumstances I shall probably not be self-active effectively much longer, having been at the work most of a morning and having a plan to do one other task before noon.

Likewise boys who would not of themselves initiate the study of geometry might become effectively self-active, once their activity were stimulated by whatever means appropriate to the situation. It seems clear that what we mean by self-activity is activity with as much of self in it as possible. That there can be some learning with a minimum of self-activity will be granted: that learning is effective largely in proportion to the activity of the self is equally true, and the point here stressed.

Summary

In brief we have proposed a definition of *learning* which seems meaningful and workable; namely, that it is the process by which an organism thru its own activity becomes changed as to its behavior. The fundamental basis, in the nature of the organism, for this learning process is the principle of association to the effect that experiences that occur together tend to recur together. The necessity of togetherness in experience of the aspects of the environment that are to be associated in later behavior was stressed. It is thru the self-activity of the organism, what it does in relation to stimulating situations, that learning is possible.

Editor's Note—This and "Skillful Teaching" are worth the price of admission.



Forty-one Vocational Agriculture Teachers Attend Special Graduate Session in Agricultural Education at the University of Missouri, Columbia



Methods



Skillful Teaching

CARSIE HAMMONDS, Professor of Agricultural Education, University of Kentucky

HERE are those who believe that skillful teaching is inherent in the ways or forms or methods of teaching. These people have a feeling that if they learn what the project method is or what the problem method is they are all set. Almost any method may be truly educative, merely amusing, or positively harmful to the learner, depending upon how skillfully that method is used.

There is no royal road to skillful teaching. Genuine skill in teaching, for most of us, comes only thru continued study and persistent, painstaking practice, assuming even then that we have some initiative and resourcefulness to begin with. Good teaching requires all the initiative and resourcefulness of which any teacher is capable. The person who lacks these qualities cannot become a skillful teacher.

This article names and discusses briefly, with application to vocational agriculture, five characteristics of skillful teaching. Skillful vocational teaching:

1. Secures thinking on the part of the learner.
2. Challenges the learner.
3. Gives an understanding of the material learned.
4. Secures desirable results (in the learner) that are permanent.
5. Assures that the material learned is frequently used by the learner.

Skillful Vocational Teaching Secures Thinking on the Part of the Learner

Skillful teaching must secure thinking on the part of the learner if the following assumptions are correct: (1) that learning is essentially a thinking process; (2) that training to think in the vocation is one of the desired results in teaching that vocation.

The first assumption is based upon these facts: We learn things or fix them in the mind largely by the associations or relationships which exist between them and other things. These associations or relationships are usually established as a result of thinking.

We shall see further on that if the material learned is to be retained it should be used. Use forms more associations. Now, the only information which, otherwise than by accident, can be put into logical use is that acquired in the course of thinking. Anything thought out makes a more definite and permanent impression on the mind than the same thing committed to memory by rote. This again is probably due to the associations formed in thinking. Thinking is the most economical way of most learning.

Thought gives meaning. Something thought out acquires a meaning it could

not possess if it were presented as a pure statement of fact. Principles cannot be taught—that is, understood—unless the student thinks. Without understanding "principles" the thinking must be empirical—there are no connections, no relations. The empirical method affords no way of discriminating between right and wrong conclusions. Hence, as Dewey points out, it is responsible for a multitude of false beliefs—e.g., that potatoes should be planted in the dark (or light) of the moon. Empirical thinking gives no basis for coping with the new and variable. Without recognition of a principle, power gained cannot be transferred to new and dissimilar situations. When principles are not taught only a prescription type of vocational teaching is possible. Principles cannot be taught unless the student thinks.

The second assumption—that training to think in the vocation is one of the desired results in teaching that vocation—is based upon the fact that success in most vocations is dependent upon the ability to plan or manage. If the ability to think in the vocation is not developed while one is being trained for the vocation a risk is run that ability to think in the vocation will not be developed. Even if the student is trained to think in materials other than the vocation, it does not necessarily follow that he will be able to think in terms of the vocation. Studies in psychology make it apparent that the acquisition of an ability in one field does not necessarily mean that this ability can be used in other fields. If the student is to use his training in a vocation, this is all the more reason why he should be taught to think in that vocation.

If thinking is not developed the student is not prepared to meet new situations intelligently. In most vocations there can be no end to new situations. Vocations change. The situations in the vocation will rarely be the same as in the school. Thought furnishes the way by which new methods of procedure may be initiated; it is the only way information may be applied to life situations.

If the student does not think, he will not be able to discriminate "tested beliefs from mere assertions, guesses, and opinions" (Dewey—How We Think, p. 27). Most vocational literature is full of "mere assertions, guesses, and opinions." The student must continue to acquire information after he leaves school from such activities as reading and conversation. He must be able to discriminate.

The student cannot be taught to think unless he thinks while being taught. One learns to think well only by good thinking. The success of teach-

ing students to think depends upon how much thinking they do.

Skillful Teaching Challenges the Learner

Much so-called teaching is not challenging. When the teacher or the book supplies solutions ready-made, when the teacher's chief aim is to get the students to reiterate their lessons correctly, when the material presented is so easy that it gives no ground for inquiry or so difficult that it makes inquiry hopeless, when the material is not connected with the experiences of the learners, when only that which is familiar to the students is considered, when the intellectual interests of the students are not kept alive—the learner is not challenged. Problems must challenge the efforts of the students. Problems from a common-sense analysis must have value to the students. They must be student-problems. If students are to think they must be challenged. When students are challenged, they will think.

Skillful Vocational Teaching Gives an Understanding of the Material Learned

Of what we were supposed to have been taught what do we now retain? For the most part, it is only that which we really understood clearly. How can a teacher hope to have the students retain something which they really never did possess? Repeating, psychologists tell us that facts are fixed in the mind largely by associations, or relationships, which exist between them and other facts. A given fact bearing no relationships to other facts can be retained only with the greatest difficulty, if at all; but if relationships between it and other facts are once clearly seen, the mind becomes strangely able to retain it. Understanding and thinking are closely related. Where students understand any fact, principle of law, they have thought it thru until its important relationships to other facts, principles or laws have become clear. When students see clearly why a thing is true, they have established one of the most important kinds of relationships, causal relationships. If vocational teaching is well done, the door is opened to causes and causal relationships, to collateral fields of knowledge, to related problems.

Most of the problems in the vocations we teach are rooted in the sciences. Do we give enough consideration to this fact? Some of us are accused of doing a prescription type of teaching. No one understands a prescription.

Do you consider the vocation which you teach a science? What makes it a

(Continued on the next page)

science? Let us take Dewey's illustration from the field of engineering—that of bridge building. Is bridge-building a science? Mathematics and physics are the sciences which contribute to bridge building. There is a science of bridge building in the sense that there is a certain body of independent scientific material, mathematics and physics, from which selections may be made and organized to solve in practice the difficulties that present themselves in actual bridge building. The building of bridges itself is an art, not a science. When we bring the sciences of mechanics and mathematics to bear on bridge building, then we may speak of the science of bridge building. Men built bridges before there was any well developed science of mathematics or physics. But with the development of physics there arose the possibility of building bridges more efficiently, and ability to build them under conditions with which previous methods could not cope. Bridge building had become a science.

Let us look at agriculture as another sample. Is agriculture a science?

The accompanying diagram illustrates the relationship between agriculture and the fundamental sciences. Just as bridge building in itself is an art, not a science, so is agriculture in itself an art. The sciences that contribute to agriculture are the sciences which they are, not sciences of agriculture. They become agriculture when selected portions of them are focused upon the problems presented in the art of agriculture.

Most of the vocations we teach are rooted in the sciences. Not to teach such a vocation as a science is to train for a little niche or groove—it is a narrow education. We must do more than just train for a job. We must see that the student *understands*. He must understand not only in the sense of knowing why but in other senses in which we use the word understand. There seems little excuse for much vocational teaching that the pupil cannot understand. At the end of many lessons, to use a slang expression, the material presented is as clear as mud. We teachers seem to think that, like muddy water, the material will clear up when set away. Instead of clearing up as muddy water might do, the whole thing evaporates.

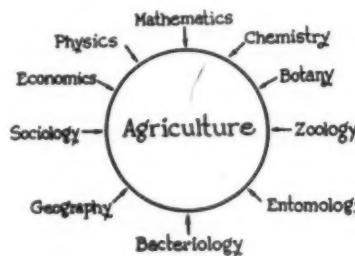
Skillful Teaching Secures Desirable Results in the Learner That Are Permanent

Good teachers leave enduring impressions in the minds and lives of their students. Why spend so much time teaching material that is not to be retained? Surely retention is important, even in the teaching of information. Information has one great function and apparently only one. It is used in thinking. Without information we cannot think. Facts or principles cannot guide one in his thinking if these facts or principles have been forgotten. Is it true that it does not matter whether information learned in school is remembered or forgotten? If it is true, it is a serious indictment against the kind of information that is chosen to be taught.

As Lancelot (Handbook of Teaching Skills) points out, the natural process of learning which is free to operate outside the school probably yields a type of

learning more permanent than that of the schoolroom. Why? Probably because students outside the school do not make conscious efforts to memorize information. Too frequently we direct our students to memorize, memorize, memorize. Our class meetings are regurgitations of memorized material, material soon to be forgotten. We get it into our heads that information is education and the way to get information is to memorize. No wonder the material is not retained.

There is no inconsistency in saying that in schools students are taught too much and too little information. The accumulation and acquisition of information for purposes of reproduction in recitation and examination is made too much of. The goal becomes to hoard the information and display it when called for; poison of conceit is developed because the student thinks he is becoming educated. On the other hand, information connected with thoughtful action is made too little of. If we expect information to be retained it must be information that will function in the experience of the learner.



Skillful Teaching Assures That the Material Learned Is Frequently Used By the Learners

Making certain that materials learned are frequently used by the learner is not an argument for drill as mere repetition. If we may call it repetition at all, it is repetition with a varying background. *Understanding* implies association, as we have seen. Subsequent use of the material learned—especially in thinking—implies the establishment of additional associations. This is what we mean when we say that the material is more strongly fixed in the mind by use.

If we were to examine the objectives set up and sponsored by any group such as the National Educational Association, we should observe that these objectives demand imperatively that that which is learned in school be used in later life. This use in later life makes retention a necessity. Retention makes frequent use a necessity. A vocation is knowledge in use. The probability that we shall be able to use a bit of knowledge a few years hence is greatly increased if we have used that bit of knowledge after the initial learning.

Probably there is no mistake much more frequently made by teachers than the failure to provide situations calling for use of material previously learned. The material learned should be used in subsequent thinking. It should be used in subsequent doing, which, of course, includes thinking. Ideas are more likely to go together if they are used or experienced together. If we as teachers want certain ideas to go together, we should make a conscious effort to see

that the ideas are experienced together by the learner. We are often shocked when the student fails to put ideas together, fails to use an idea in a new situation. If we expect a "principle" to be used in a vocation, we must see that many connections are made. Not all can be made at once. We must see that the material is frequently used by the learner. Many uses make many connections and result in many associations. Teaching of this kind is not mechanical. Instead of being a substitute for intelligence, it requires all the intelligence any human may possess.

(The writer wishes to acknowledge borrowing from Lancelot's Handbook of Teaching Skills.)

Don't Count on the Stork

FOLKS who have been worrying about the future inhabitants of the United States being forced to live on spinach and horseshoish can now start worrying about something else. You remember it used to be the prevailing idea that we were on the way to a population of half a billion or so, and that eventually, in order to produce food enough to go around, hand labor and vegetarian diets, on the Chinese model, would be necessary. It now seems that steaks, chops, and ham and eggs will be on the menu for some time yet. According to a number of notable authorities, the birth-rate in the United States is declining fast enough so that our population at its greatest will probably not exceed 180,000,000, and may stop at 150,000,000.

This suggests a number of things. First, it suggests that reclamation projects are the bunk. The farm land we have right now will feed all the folks we are ever likely to have in the United States. It suggests also that with increasing efficiency in producing crops and livestock, a lot of land now being farmed isn't needed and may well be put back into forest.

It also, and not so pleasantly, throws the surplus problem in our face again. We have been thinking that the increase in population in time would eat up our surplus and automatically solve farm ills resulting from overproduction. Right now, tho, our productive efficiency on the farm, even with reduced man power, increases faster than the population.

The surplus problem isn't going to solve itself. It was a comforting notion that all we had to do was to hold on and the increase in population would take care of our economic troubles. Now we have to face again the fact that deliberate social control only will remove the disabilities of the farm.

Apparently, we shall have to do one of three things. We can put thru the debenture plan or the equalization fee, and get rid of some of the penalties of heavy production in that way; we can lower the tariff and by buying in the world market balance the present farm disability of selling in the world market; we can devise some method of enforcing acreage limitation, and consequently reduce production to home demands.

What we dare not do is to stand still and hope that the stork will take care of the surplus. He isn't going to do it. Apparently, his wings are getting tired. —Henry Wallace in *Wallaces' Farmer*.

Suggestions for the Taking of Pictures

H. M. HANSON, Visual Instruction Specialist, U. S. D. A.

General:

1. Carefully study instruction book accompanying the camera, and master the technique of manipulating the camera, before actually taking pictures.

2. Practice with the camera should be supplemented by readings.

3. The following list of books is suggested: (a) About Lenses—Eastman Kodak Co., Rochester, New York; (b) How to Make Good Pictures—Eastman Kodak Co.; (c) A. B. C. of Photography—Bailey; (d) Photographic Lenses—Bausch & Lomb Optical Co., Rochester, New York.

4. Avoid fogging of negative by loading and unloading a camera in a weak light.

5. Always keep roll of film tight while doing this.

6. A camera must be absolutely steady during the time that the exposure is made.

7. Use the camera on a tripod whenever conditions permit.

8. A solid, tall, wooden tripod is preferable.

9. Blurred foregrounds which always ruin a picture, are caused by setting the focusing scale at too great a distance.

10. Avoid using large aperture.

11. "Stopping down," using a smaller lens opening, increases the depth of focus, that is, the sharpness of the definition of the entire picture.

12. Exposure changes so much with the change of stop or lens opening that it would be well, for the beginner at least, to use one stop, such as 22, which is most generally suitable at all times.

13. Place your camera near enough to the subject to make it the prominent part of the picture, but avoid getting so close as to produce fore-shortening or exaggerated perspective.

Exposure:

1. The most serious mistake made in photography is that of underexposure.

2. The simplest rule that can be given is: expose for the shadows and let the highlights take care of themselves.

3. If the shadows of the pictures are too dark, that is, they lack detail, then the exposure has been too short.

4. The beginner, at least, should always use an exposure meter. A Harvey Exposure Meter is recommended as one of the best and inexpensive meters for general use and taking outdoor pictures.

5. Progress will be hastened by keeping detailed records of each exposure.

This record should be supplemented by a careful study of the resulting negatives and the prints therefrom.

7. It is very important to success that a person learn to identify under, correct, and over-exposure in his or her negatives.

8. When in doubt, use more rather than less exposure.

Subject Matter and Setting of the Picture:

1. Every extension picture should tell some clear-cut, worthwhile story.

2. Always avoid making an exposure

when anyone in the group is watching the camera.

3. Allow nothing in the foreground or background which will detract attention from the principal object in the picture.

4. Never allow parallel or nearly parallel lines to run across the picture. It is preferable that the lines: roads, paths, fence rows, and so forth, should lead into the picture. In other words, the arrangement should be such as to invite the observer into the view.

5. Simple backgrounds are always the most effective. Careful notice should be made of the tone of the background and the object being photographed so that the object in the picture will stand out distinctly in the resulting picture.

6. The best time to photograph is usually before 10 a. m. and after 2 p. m.

7. Pictures taken at noon or with the sun directly at your back are nearly always flat and uninteresting.

8. Most extension pictures are best taken when the sun is more or less at one side of the camera.

9. Such lighting produces shadows as well as highlights, both of which are essential in a good picture.

10. Avoid placing groups in brilliant light, facing the sun.

11. A much better practice is to place them in the open shade and give two or three times the exposure required in direct sunshine.

12. A subject should be placed either entirely in sunshine or in shade.

13. When arranging groups for the telling of a story, avoid placing them so that their heads will appear in rows, either horizontally or vertically.

14. Persons used in such pictures should always be attired in clothing appropriate for the occasion.

15. Human interest in a picture will always be increased by showing the individual or group engaged in doing something in which the observer is interested. This explains why publicity

agents do not want pictures of persons lined up and looking at the camera.

16. Usually the more simple the subject, the more effective the resulting pictures.

17. Tell only one story in each picture.

18. Exclude everything from the view which is not needed for the telling of the story. More than this will detract attention away from the story that you are trying to tell.

19. Put as much action as possible into every picture.

The Camera:

1. Sizes suggested are $2\frac{1}{4} \times 3\frac{1}{4}$ inches or $3\frac{1}{4} \times 4\frac{1}{4}$ inches. These are suggested because of their small size, lower cost of operation, and greater certainty of obtaining sharp negatives.

2. The smaller the camera, the more important that it be equipped with a high class lens.

3. An anastigmat lens is recommended.

4. An F:7.7 or F:7.5 lens is adequate for most uses. Some F:6.3 lenses are excellent. An F:4.5 is the fastest lens advisable to use.

5. A good shutter is an essential part of the equipment. Select one which will give automatic exposure of $1, \frac{1}{2}, \frac{1}{5}, \frac{1}{25}, \frac{1}{50}, \text{ and } \frac{1}{100}$ second.

6. It is highly desirable that the camera be equipped with a direct finder in addition to the usual type of reflecting finder.

Films:

For most persons the roll film camera is preferable to the film pack type.

The Federal Board for Vocational Education has just published a Monograph (No. 8) on Master Teachers of Vocational Agriculture.

Prepared by H. B. Swanson, teacher-training specialist with the Federal Board, it analyzes the causes for the success of these teachers. It is well worth securing and studying.



*A Sheep Shearing Demonstration at Vinton, Iowa. A. B. Kirk, Teacher.
A Good Type of Picture*



Evening Schools



Securing Supervised Practice in Schools

FRATE BULL, Master Teacher of Tennessee (1929)

A QUESTIONNAIRE answered by 25 teachers who taught evening classes in Tennessee in 1928-29 showed that they used the following methods of enrolling farmers for improved practices:

1. Listed names of farmers and name and scope of enterprise to be improved, at the close of each meeting of the evening class. This was usually confined to the practices that had just been discussed.

2. At the beginning of each meeting the improved practices that had been discussed at all previous meetings were called to the attention of the farmers and the names of others who had decided to do one or more of them were listed.

3. At the last of the series of meetings a summary of the entire course was reviewed and the entire list of improved practices that had been discussed was presented and all farmers present who had not already enrolled were invited to do so.

4. Teachers had personal talks with farmers and invited them to enroll.

5. Community leaders helped enroll farmers.

Enrolling Farmers at the Close of Each Meeting

We think that enrolling farmers at the close of a discussion on why and how to do a practice is our best method of enrolling them. It has these advantages:

1. More farmers are interested in the practices at that time than would be interested at any other time.

2. When farmers are in a group and a few say they will try a new practice, rather than be slackers others will say they will try it.

3. It saves time for the teacher because it keeps him from having to visit farmers to get them to enroll.

Here is how one teacher enrolled farmers for improved practice work following a discussion on why and how to lime land for legumes. After an hour's discussion the teacher said to the class: "Now, gentlemen, unless you put into practice some of the improved methods that we have been discussing, our time will have been wasted tonight. You agree with me that according to experiment station results, obtained over a period of eight years, liming paid well on land very similar to yours. Now, Mr. Secretary, please enroll the men who want to use some lime. Mr. Robbins you are a good farmer, how many tons will you try?" (Lime was new in that community but Mr. Robbins being a leader and a progressive farmer said he would take six tons.) Following this nearly every one of the 12 farmers present took two to six tons. A group of people are like a flock of sheep. Where the leaders go others follow.

Enrolling Farmers at the Beginning of Each Meeting

Our teachers have learned that it pays to review the important problems that have been passed over, at the beginning of each lesson and call attention to the improved practices that have been approved by the group. At this time all those who have not already enrolled for improved practice work are invited to do so. Some farmers who would not enroll at the close of the last meeting will enroll at the first of the next meeting after they have talked the problems over with the teacher or others. Another advantage of enrolling them at the beginning of the meeting is that there may be some farmers present who were not at the previous meeting.

Enrolling Farmers at the Last Meeting

All evening classes in Tennessee run for 10 or more meetings. Most of them are taught during the winter months and meet one, two, or three times a week until all meetings have been completed. Teachers use the last meeting in reviewing all important improved practices that have been discussed. Those who have not already enrolled are invited to do so and those who have enrolled are given an opportunity to change their decision.

The writer observed W. S. Baldwin, Milan, Tennessee, enrolling farmers at the last of a series of 12 meetings. The secretary of the class had listed 12 practices, one at the top of each of 12 pages in an ordinary tablet. He read practice number one and the names of those who had already enrolled. The teacher called for others who wanted to enroll and for those who wanted to revise their decisions. A number enrolled and their names and the name and scope of practice to be done were listed. Each of the 12 practices were gone over in the same way.

Teachers Have Personal Talks With Farmers

There were always some farmers who would not enroll in the classroom or were not present at the last meeting. This made it necessary for the teacher to talk to them privately. If roads and time permitted teachers visited farmers between meetings of evenings classes or a short time after evening schools closed and talked to them about the improved practices. If teachers could not get over roads they talked to farmers on Saturdays when they came to town.

Leaders Help Enroll Farmers

Community leaders helped enroll farmers by talking in meetings and outside of the classroom. This method was used very effectively at McKenzie, Tennessee, last year. Following a dis-

cussion on the importance of breeding cows to bulls from register of merit cows a drive was started for a block in the County Cooperative Bull Association. A committee of three community leaders was appointed to enroll members for the club. Only a few stocks were sold on the night the lesson was taught but at the beginning of the next meeting the committee reported that 50 stocks had been sold.

After using all of these methods our teachers do not enroll 100 percent of the farmers who attend evening classes. They usually enroll for improved practice work, 50 to 75 percent of all farmers who attend one or more meetings. They never tell farmers that they are required to do supervised practice. We believe that the key to success in getting farmers who attend evening classes to practice better methods of farming is the basing of the course taught to the evening class on the improved practices needed and wanted by farmers in the community.

Our teachers have very little trouble getting farmers to do practices after they have once enrolled for them. It does not require as much supervision as all day projects. Aside from occasional visits to make and keep friends with farmers most of the supervision is done when teachers are called by farmers. Teachers find that it pays to use most of the time in evening class discussion on managerial jobs instead of teaching how to do operative jobs. Farmers usually know how to do quite a bit more than they actually do. If they do not know and have been sold to the idea, they do not hesitate to call the teacher when they need help. Teachers who want to get out of work had better let evening class work alone. Organizing and teaching an evening class is a big job but when the last meeting is over, if the class has been a success, the teacher is ready to start to work. Our most successful evening class teachers are not those who can make the loudest and longest speeches but those who get out on the farms and mix with farmers and go when farmers call them.

Farmers Change Cotton Varieties

C. O. HENDERSON,
State Supervisor, Vocational Agriculture,
Jackson, Mississippi

THE farmers of the Madden Consolidated School District, Leake County, are thru with unimproved varieties of cotton.

During the past two years the community has suffered considerable financial loss due to boll rot. Something had to be done to meet this problem in order to eliminate these varieties which were susceptible to boll rot.

The farmers were called together by an active vocational agriculture teacher to study in groups the experimental station data relative to the different varieties of cotton which were common to that section. After much discussion and study 54 of the farmers who attended these meetings decided to buy Delta and Pine Land No. 4-8 seed for their next year's cotton.

Mr. Sigrest, the vocational teacher, states, "After the group discussions, the farmers of my community were not satisfied with anything less than the seed direct from the originator." In co-operation with the Bank of Carthage, they made a co-operative order for 5 tons of Delta and Pine Land No. 4-8 seed. Some of the 54 farmers who bought seed bought small amounts but their intentions are to plant a seed patch and have pure seed for the entire crop next year.

In order to have the entire community in Delta and Pine Land No. 4-8, L. S. Turner, the ginner for the community has arranged to run pure seed gin days this fall. The people who have the pure cotton can then be assured of pure seed for the next year's crop.

Results From Use of Charts

ROY J. ELLISON,
Vocational Agriculture Teacher,
Duncan, South Carolina

COTTON being the major cash crop in my community I selected some of the most useful material that could be found on this subject, and such material as would assist farmers in solving some of the main cotton problems. Some of the problems selected were: how to space cotton; how much nitrogen to apply as a side-dressing; the most profitable amount of fertilizer to use; the source of fertilizer; and whether it would be cheaper to use a low grade or high grade fertilizer.

These problems were common to the farmers enrolled in the evening class and were pertinent issues with them as shown by a preliminary survey made by visits to each farm.

The material that was used, was selected from several sources and charted on brown wrapping paper that was 36 inches wide, using a small camel's-hair brush and mimeograph ink diluted with gasoline. The figures and letters were made two and three inches high; so that they could easily be read at night at a distance of twenty to thirty feet. Each test was put on a separate chart and these charts were thumbtacked on the wall for study and discussion. A typical chart follows:

THE AMOUNT OF NITROGEN FOR COTTON ON RED LAND

Pounds of Ammonia	Yield and Increased Yield of Seed Cotton	Net Profit
0	615
18	323	\$8.98
27	383	15.50
36	542	22.55
45	506	17.89
54	465	12.94
72	641	18.52
90	619	12.21

Note: 600 pounds of fertilizer was used per acre, keeping the phosphorus and potash constant and varying the nitrogen from zero to 15 percent. The actual pounds of ammonia as available plant food was figured as nitrate of soda at \$50 per ton and the seed cotton at 6 cents a pound.

After a systematic study of this material in the evening classes the farmers were able to make a very practical use of it as shown by the yield of cotton in 1929 as compared to 1928.

A careful analysis was made with 50 farmers enrolled in the Duncan evening class and it was found that due to the influence of the above instruction that a number improved their farm practices as follows:

Thirty-six farmers out of 50 materially increased their side-dressing with nitrogen in 1929 over 1928. Twenty-five farmers out of 50 used a higher grade fertilizer in 1929 than in 1928.

Texas Evening School

J. J. SHAW,
Vocational Teacher,
Cookville, Texas

THE old saying, "It's never too late to learn" is being put into practice by Cookville farmers attending our evening school conducted in the Cookville school.

This school started back in December, and at the first meeting had about ten farmers present. Since that time there have been 12 meetings with an average attendance of 25 farmers and to date 40 have enrolled for work. The interest has been increasing with each meeting, and as many as 50 farmers have attended some of the meetings.

We have been studying how to maintain and restore soil fertility. Such lessons as setting up and operating a farm level, how to lay out a system of terraces for fields, how to construct terraces and how to maintain terraces after they have been built have been given careful study and thought. As many as eight farmers have met the teacher after school hours and on Saturdays and learned how to terrace. With the help of his students some fifteen or twenty farms have been terraced. Twenty-three tons of unmixed fertilizers have been ordered and about forty more tons will be ordered as the cotton planting season opens. By ordering co-operatively and mixing their own fertilizers these farmers are saving \$10 per ton. Their further study will include planting soil improvement crops, and they are planning on buying their seed co-operatively.

An interesting series of special meetings devoted to tomato production have grown out of these regular meetings. Twenty-five acres of tomatoes will be planted as a result of this work. The seed has been ordered co-operatively, 20 hot beds have been built under supervision and the group has asked for help on transplanting, fertilizing, pruning, controlling insect pests, gathering and marketing. These problems will be discussed at the special meetings.

Keeping the Problem Real

C. F. CLARK,
Neshoba County, Mississippi

A GROUP of 60 farmers gathered recently with E. M. Smith, teacher of vocational agriculture, at the Forest Dale Consolidated School, Neshoba County, Mississippi. Factors entering into the selection of a better variety of cotton was the problem for discussion.

Mr. Smith made a poll of the class for suggestions as to the factors entering into the selection of a better variety of cotton. One of the men present, together with the remainder of the class and an occasional suggestion from Mr. Smith, named the following six factors as entering into the selection of a better variety of cotton: lint per acre, lint percentage, staple length, wilt resistance, rot resistance, and picking qualities.

The next question brought to the class was, "Which of these factors is most important?" After some discussion, the group decided that yield of lint per acre ranked first in importance, which was designated as number one. The other factors were then arranged in the order of their descending importance.

The various members of the class were asked to give their experience as to the variety of cotton that had given them the best yield of lint per acre. Each member responded with the variety that had produced the best yield for the last few years. These answers were placed on a blackboard. After all of this information had been compiled, it was found that 90 percent of the class had received the highest yields per acre from the same variety of cotton and the other 10 percent members had received the highest yield from another variety.

The next question asked the class was, "How many varieties of cotton are grown in this section this year?" The compiled replies showed 30 which was agreed probably to be correct.

Mr. Smith then questioned the group as to how they would go about determining the yields per acre from the other 28 varieties. This query was answered with a suggestion that the class experiment with the other 28 varieties by growing them. It was pointed out by Mr. Smith and agreed upon by all members of the class that a tremendous amount of work, and a loss of time and money would be the result of such experiment.

(Continued on page 48)



Cookville (Texas) Farmers Learn New Tricks of Their Trade



Supervised Practice



Supervised Practice Valuable in Connection With Evening Schools

WAYNE W. ADAMS, Vocational Agriculture Instructor, Roy, New Mexico

THE subject of supervised practice in connection with evening schools is one which no doubt deserves a great deal more study and consideration than has been given to it in the past. It is true that the extent in which any evening school is a success depends largely upon the success or failure of the follow-up work. It seems to me that supervised practice has always been an indefinite quantity and more or less difficult to put over. For that reason, and for the fact that follow-up work is a prerequisite where federal reimbursement is expected, it is very necessary that this phase of vocational education be given serious consideration.

In connection with evening schools which have been conducted in this community, I have used a system of follow-up work which has helped those particularly concerned, and also the community in general. I do not say that this system is all that it should be and, indeed, there may be others which are much better, but I do say that it has worked in this section to the extent that several modern poultry houses have been constructed, brooder houses built, balanced rations fed, and diseases controlled.

This program of follow-up work consists of three parts:

First, preparatory follow-up work four or five weeks before the school begins. This I try to do while making a survey prior to the beginning of the course. I carry with me a small notebook, and each time the school is discussed with a prospective member, I try to develop in the discussion some particular problem which I know that man or woman, as the case may be, is interested in. The next step is to show how that item will be taken up and thoroughly discussed during the evening school. If the man is contemplating the building of a poultry house, then hit housing and equipment as if it were the only job to be taken up. If he mentions some other trouble, which may be an indirect result of poor housing, the opportunity is greater than ever to show him the need of attending the school and getting *free of charge* the information necessary to build a fine modern poultry house, and clean up his flock.

The second step usually takes place during the course of the evening school. There always are present a few individuals upon whom you had not figured. This is the time to find out what they are there for. Take advantage of this each evening before and after the discussion, and also during the informal group discussion of the job in hand. If these individuals are handled right,

the result will be more follow-up work. During the school be sure to put across, to the men you talked to before the school began, the job in which they are most interested. One method of doing this is to make them the center of discussion when the job they are particularly interested in, is under discussion. This will lead them to make statements and ask questions that will enable you to develop the job as it should be developed, in the light of their present knowledge.

The third step in follow-up work is one which determines how well the first two steps have been put across. This is, of course, where the actual follow-up work begins, and is the first time some instructors give it consideration. In carrying out this step I try to get around to each member who I have found out thru the first two steps, really intends to improve his methods. I make it a point to see these members first and as soon after the evening school as possible. Before arriving at, say Mr. A's place, I have well in mind a few questions to ask regarding his improvement project. If Mr. A has started work on his improved methods or on a project, he will have plenty of questions to ask. If you cannot answer some of them, make note of it and let that be the first thing you find out about when you get home. It is not a disgrace to be stumped on something the first time, but it is the second time. If Mr. A hasn't started work on his improved methods, your job is much more difficult. I make special mention to Mr. A how Mr. B, another evening school member, has almost completed his new poultry house, or how Mr. C has increased his egg production since changing his ration. Show more enthusiasm and interest in A's project than he himself shows in his project.

I try to visit the members who show hopes of improved methods, and consequently follow up work, every two or three weeks, depending on conditions, of course, and get that follow-up work started while it is fresh in their minds.

With the use of the above methods, plus congeniality, and the ability to mix with the different types of farmers, you will have follow-up work which will be a credit to the individual, to you, and to the community.

Subscriptions to Agricultural Education have been received from several foreign countries.

The State Vocational Agriculture Association of Iowa had a share in the A. V. A. membership presented to Regional Agent J. A. Linke.

Project Tours Stimulate Interest

L. J. HAYDEN,
Wyanet, Illinois

IN order to keep boys interested in their own projects a class tour was planned for projects in the community convenient to visit on one trip. The trip was held on Sunday afternoon since the boys were busy on Saturday and did not wish to leave school for a half day. It was not compulsory that anyone attend the trip but all were invited. As a result practically every boy in the class and several 4-H Club members not in school met at a central starting place for the tour. They were keenly interested in seeing the other fellow's pigs and how their classmate's calf was gaining in comparison with their own. Each boy told what he was feeding and how old his pigs were and how much his calf had gained, what his gain had cost, and so forth.

The boys as a whole were proud to show their stock and had taken pains to get them clean and clean the pens and troughs unusually well. The tour made the boys who had been doing a good job and working hard up to the present feel gratified. It made those who had been a little lax with their work realize their mistake and was a fine inspiration for all.

Community Agriculture Picnic

LYLE G. STITT,
El Paso, Illinois

THIS year a Community Agriculture Picnic was substituted for the Father and Son banquet. On Saturday 200 fathers, mothers, and children of the community were present for the picnic dinner in the high school gymnasium. After the picnic dinner, the whole group then separated into three groups for sectional meetings. The ladies remained in the auditorium and Mrs. Johnson, past president of the Illinois Home Bureau Federation, talked. The men listened to the county farm adviser in an adjoining room while the children and young folks took part in races, contests, and stunts in the gymnasium. After the men finished their meeting, they came to the gymnasium and had an indoor baseball game with the high school boys. This aroused a lot of interest and excitement, the boys winning by a score of 16-3.

A picnic of this nature gets more people interested in taking part than a father and son banquet and is much cheaper. The local agriculture club furnished all ice cream, lemonade, and coffee.

Turning Various Situations Into Successful Farm Practice Work

CLAUDE SPILLMAN, Teacher of Agriculture, Stanford, Ky.

IN WORKING with both small and large farm-practice programs, I have found out that the moderate sized, diversified program affords a most convenient and effective device for teaching.

Several factors in the Stanford High School department of agriculture make the putting across of a practice program comparatively easy. The students are enthusiastic and have a splendid attitude toward project work and farm life in general. The parents, as a whole, are very desirous that their boys and girls do such work. The town citizens think such work is of prime importance to the school and community. The Rotary Club has made it possible for any student to borrow needed money to carry on such work as well as securing prizes on several occasions. The superintendent and other school officials are enthusiastic and entirely co-operative in the matter. An efficient county agent has laid the foundation for a good piece of work. The Future Farmers' Organization is organized into various groups according to productive home enterprises carried on, and each one in the group is striving toward a definite high goal of production.

Case A is a small, brilliant boy hampered by lack of finances at home, and lack of time to strike out on his own. His dad is undoubtedly the stingiest white man in the state of Kentucky. Last year he made a sorry mess of potatoes from home-grown, badly diseased seed, on seab-infested soil, that was not fertilized. His dad said that there was too much risk in paying high prices for good seed and fertilizer, however he let the boy borrow \$14 on his own account to buy certified seed and enough high grade fertilizer for his patch of potatoes. He also rented to the son a patch of clean ground. Result: Successful crop. The boy and the dad see the benefits of clean seed, clean soil, and correct fertilization.

Case B is similar except that it is two girls who walk six miles to school. Last year they wore cotton dresses and hose. This year they are wearing woolen dresses and silk hose. The dad, after a good deal of persuasion, agreed to rent the girls some land and let them make a note for seed potatoes and fertilizer. They showed the dad really how to grow potatoes and beat him severely at his own game.

Case C is another girl. Last year, by correct methods, she cleared \$74 from a half acre of potatoes. This year, she left off fertilizing and cleared \$73 from the same amount of land. She is also growing 50 capons and a like number of high grade standard bred pullets, as well as introducing such work to the farm. She helps with the potato growing, doing most of the work other than digging. She is an A student, popular and has shown more farming proficiency than her 200-pound brother who graduated last year with four years of agriculture work.

Case D is of two sophomore brothers and a senior sister. They live on a 40-acre farm on which the Swiss par-

ents have reared and educated 21 splendid children. Most of these boys and girls are graduates of our high school. One is a highly successful milk dealer and dairyman. One is in charge of a farm in an Indian school in the northwest. The boys now in high school are partners in quite a diversified program, the aged father turning over to them what part of the farm they wanted. The combined program: 4 acres corn, 4 acres oats, 3 acres soy beans for hay, 4 acres clover, 2 acres orchard grass, 2 acres burley tobacco, 1/2 acre potatoes, and 8 milk cows. The sister has her potatoes, 1/4 acre, and a flock of capons.

Case E is that of a country boy moved to town. His dad keeps a filling station. The boy took charge of a vacant lot and has grown 2 acres of fine burley tobacco.

Why Contests?

(Continued from page 34)

facilities and perhaps be inspired to attend that college when they graduate from high school. Third, high school contests tend to keep college instructors in close contact with the teachers, the pupils, and trends in high school education. It enables the teacher trainers to see the limitation of high school pupils and will result in a better job of teacher training.

Contests in which pupils, the teachers, and the teacher trainers enter with a spirit of co-operative educational developments are beneficial to all concerned. It has been suggested that we have a national contest in farm mechanics. There are many arguments on both sides of such a plan and we would be glad to get the reaction of all concerned. The duty of the administrators and teacher trainers is to serve the high school pupils and teachers, and if there is sufficient demand for a national contest possibly it may be provided for at the Kansas City meeting of the F. A. A.

—M. A. S.

The good teacher teaches others to teach themselves.



*A Class Poultry Project at Kirksville, Mo., N. C. Allen, teacher.
Land is owned by school, planned and worked by students*

Eliminating Failures in Farm Practice Work

F. G. BURD,
State Supervisor, Kentucky

THESE are procedures which the teachers of agriculture may find helpful in securing successful farm practice work.

1. Get acquainted with all the vocational agriculture boys and their home conditions early in the year.

2. Find out if possible the boys' plans for the coming summer. List those who plan to go away for the summer. Make a special effort to get all those who are going away to start their practice work in the early fall. Work out with them programs that can be carried on during the winter months.

3. Learn who the doubtful boys are as early in the year as possible. Discover each boy's problems and take definite steps to help him overcome his difficulties.

4. Take the doubtful boys on visiting trips to see the other boys' projects with the idea of stimulating interest.

5. Go home with the doubtful boys often.

6. When other needed courses are offered do not permit pupils to enter vocational agriculture classes until they show that they are interested and willing to do farm-practice work.

7. Get all the boys actually started on some phase of their farm practice work early in the school year.

8. Develop with the class definite practice programs made up of the enterprises best suited to the region.

9. Have each boy plan in detail a practice program he wants and thinks that he can carry out.

10. Personally help the boy who does not have farming facilities secure what he needs to carry on a farm-practice program.

11. Do not give passing grades for agriculture courses without farm practice work.

12. Use the influence of the Future Farmer organization for 100 percent membership with farm-practice work.

13. Group the projects when practicable to stimulate interest, competition, and co-operation among the boys.

14. Do not change positions from year to year.

15. Do not leave the community for long periods of time during the summer months.



Farm Mechanics



Financing the Shop Program

J. W. NIELSON, Vocational Agriculture Instructor, Sidney, Nebraska

THE shop program should at all events be practical. The exact definition for such practicality includes a number of things. First of all, the list of shop jobs should include those that are instructive and useful and which involve a varied number of skills. Such jobs cannot easily be listed because they will differ for different classes of boys even in the same community.

However, to be entirely practical the program must be more than merely a series of varied useful exercises. The one characteristic that will prove the greatest selling factor for shop work in the eyes of the school board members, the superintendent, and the constituents of the school, is that the shop be self supporting. By this I mean that it shall earn an income sufficient to cover the cost of all material purchased for making practice exercises and an amount in addition thereto which will cover cost of tool breakage and losses.

This requirement involves a carefully organized shop program that not only includes training boys how to do something with tools, but also a business-like plan of shop finances. The latter thus becomes an important administrative problem for the vocational instructor.

Tests of Usability

A complete shop schedule will, with some deviations, include numerous construction and repair jobs in farm carpentry, tinning, forging, leather work, rope work, auto repairing, tractor mechanics, concrete work, brick and plaster work, and many other projects, some of which may easily be made to finance themselves while others become a direct expense to the school district. In order to finance such exercises they must be given two definite tests to determine their practicability.

These tests are readily illustrated by taking a concrete example of a shop job such as knot tying and splicing a rope. It is possible to teach boys to tie a dozen or more different kinds of knots and they may learn to tie most of them quite readily. To practice these knots each boy will need three to five feet of $\frac{1}{4}$ -inch rope. If there are 15 boys in the class, the exercise will require about seventy-five feet of rope. This will cost approximately fifty cents. After the exercise is completed, 15 pieces of rope will remain which will be cut to more pieces for making various splices and braids. In the end all the rope is wasted. In six months 85 percent of the boys will have forgotten how to tie 75 percent of the knots and will most likely never use them.

The first test, then, is "Does the project involve a useful skill and is this skill used often enough to be readily retained?"

The second test is this "On how many farms is this particular project made use of?" For instance, how many of the boys have old rope at home that might well be spliced and how often is a sheep shank used on the home farm?

These tests may indicate that only two or three boys in the class have a need for more than two kinds of knots. All will need to know how to tie a halter rope to a manger and may or may not be using the bowline knot. A few will have use for the timber hitch; practically none need the clove hitch. Three or four boys will be glad to bring a halter rope to class, or a broken hay rope. They can practice tying some knots and make some splices on ropes thus provided. The cost of material for the exercise will thus be eliminated and a needed piece of rope work will have been done for some father or brother. Incidentally, the job will have become useful and practical. It will serve a definite need on the home farm and will be pointed out as work done in the vocational agriculture department. It is, therefore, doubly desirable that the job shall not leave the shop until it is well done. Tying knots will then be practiced only by the few boys who have need for ropes at home and these may demonstrate before the class the procedure in making two or three useful knots and making a good splice.

Rope splicing is only a sample of the many jobs around the farm which require hand skill and which may be brought to the school shop to be performed. A long list of possible jobs can be made out by the instructor and the class and this list posted on a "farm shop job list" kept where the boys may refer to it when they have finished some job already started. The list should contain jobs that need to be done at the homes of the boys in the class. It is possible for the instructor to find and list mentally as well as to point out to the boy a number of needed repair and construction jobs when making visits to the home farm.

Home Shop Day

One problem sure to arise when locating home shop jobs is that the job cannot well be taken to school. A home shop day once a month, or oftener for the dependable boy, will solve this difficulty. On this half-day the boy remains at home to do a definite job which he has decided upon ahead of time and for which he has made plans, usually written, which have been checked and criticized by the instructor. Such jobs in our department have included roofing a garage, making a foundation for a chicken coop, repairing a corral fence, building a partition in a granary, painting a garage, repairing the back walk, and repairing storm windows. Shop jobs connected with the

regular school project make excellent home shop days jobs. Such jobs as must be done outside should be planned for during the fall when the weather is usually mild. Jobs which must be done indoors make suitable tasks for stormy days.

Every department of vocational agriculture has many requests from town people to make plant stands, cabinets, porch boxes, window seats, and so forth. These should be given second place because most of them are too technical to be done well by any but the best students, and they usually have initiative enough to bring work from home to keep them busy all of the time.

Requests from farmers to construct numerous farm appliances should be given first place and be done rapidly and well. For such jobs it is well to have a couple of the boys make out a stock list and material bill of the lumber needed and then take this to the lumber yard and have it filled and charged to the farmer.

Very little advertising is needed to bring in several orders for A-type hog houses, self feeders, forage racks, and various poultry and household appliances. Such jobs may be done quickly and well and a small charge of from 25 cents to \$1 will cover losses due to tool breakage.

Exercises Unsatisfactory

Such a program as outlined here will not be conducive to making a fine display of finished articles for showing the results of the shop class, but it will mean a genuine application of practicality for the farm shop program, both from the standpoint of making a showing on the farm and ably financing the cost of the program to the school. It is clear then, that so long as the boys can be kept interested in and busied with actual construction and repair jobs in wood, tin, iron, and on mechanical projects, rather than resorting to mere exercises, the cost of carrying out the shop program will be greatly reduced. It should, therefore, be possible to show a shop ledger with little or no debit balance at the close of the school year.

Convenient Containers

Ordinary tin muffin pans, obtained from the local hardware store and placed in a rack so as to slide in and out easily, make serviceable containers for various sizes of small nails, bolts, screws, washers, etc., in the farm shop.

Interest, understanding, and subsequent use are necessary factors in securing permanent and functioning knowledge.

Why not try an evening school on Home Improvement?

Muscatine Gets a New Shop Building

L. B. HOOPES,
Vocational Agriculture Instructor,
Muscatine, Iowa

WITH the growing enrollment in Farm Mechanics in our school the former quarters became inadequate. The class had been meeting and doing what little it could in the back rooms of an old dwelling. During the warm weather much of the painting and gas engine repair had to be done outside.

Upon the recommendation of our superintendent, the local board decided to construct a building which would give these boys the necessary space for their work. The only available location for the building was on the rear of a lot adjoining the present high school property. Using this site necessitated the removal of a back room from a dwelling and the tearing down of an old barn.

The boys were eager to finish the building before cold weather. They were allowed to draw the nails and pile the lumber from the old buildings, help with the excavation, and paint all sash, doors and frames before they were set in place. While the work was in progress they laid a four-inch concrete floor over the entire room and covered one-half of it with a yellow pine floor. They set the benches in place and built lockers, work benches, tool and lumber racks.

The walls of the building are stone faced concrete blocks. The roof is wood framing covered with the heaviest grade of prepared roofing. Full-time help was employed for the roof construction and all masonry work.

Heat for the building is supplied by a large stove. The ceiling of the room is insulated with a compressed wood product.

The cost of the building was as follows:

Building, masonry and ceiling	\$1,103.76
Removal of dirt for floor	75.00
Electric wiring and fixtures	39.00
Sand and gravel	65.94
Cement, flooring and finish lumber	244.15
Tools and new equipment	617.33

Total \$2,145.18

The course as presented by our department offers one semester in the beginning of the ninth grade for such work as gas engine repair, soldering, harness repair, rope work, glazing, painting, forge and cold metal work. The second semester of the ninth and the first semester of the tenth are used for livestock work. The farm crops work is taught in the spring semester of the tenth grade and the fall semester of the eleventh grade. This allows the second semester of shop work to be given in the second semester of the eleventh grade. This second semester of shop work consists of woodworking, drawing, and tool sharpening.

We should have a fourth year for farm management, but with a seven-period schedule and only one instructor for this work, it cannot be offered at present. With this new building and equipment and our present schedule of classes we are quite proud of the work being accomplished.

[Editor's Note: Freshmen taught by Mr. Hoopes won the State Farm Mechanics contest in 1929, which was an influential factor in securing a new shop.]

Who Pays the Bill?

PAUL GROUWINKLE,
Vocational Agriculture Instructor,
Orient, Iowa

EVERY progressive farm shop instructor is planning his farm shop program for this year. In some cases the program of the past year may have been very satisfactory and consequently only minor changes need to be made. The majority of instructors, however, do not have their programs so complete that new ideas and methods cannot profitably be brought in each year. The following suggestions are not necessarily new but they may prove helpful, especially to the fellows who are just starting in the work this year.

What method are you going to use in buying the lumber for your farm shop this fall? In some places the school board does the buying and then uses the instructor as a sales agent to sell the materials to the boys. In some cases the students buy direct from the lumber yards when they get ready to start their projects.

In my estimation, the second method is to be much preferred. It gives the boys experience in estimating and in ordering lumber just as they will have to do in later life. It frees the school from all loss which is caused by the large amount of scrap lumber. It simplifies the work of the instructor as he doesn't have to keep a record of so many small bills.

Instructors who have tried this system realize that it does have some disadvantages. Sometimes a student will run out of material in the middle of a period, or he may not be able to get the lumber to the school house on the day he wants to start using it. We also find some lumber companies do not care to sell to students without good credit.

These handicaps can be overcome in most cases by careful planning and supervision. Here are a few suggestions: Project plans and lumber bills should be checked by the instructor the day before the lumber is to be purchased. Insist on having the student come to class with something to work on. Keep a small amount of lumber on hand to use if it is absolutely necessary. Make an agreement with the lumber company in regard to the student paying for the

lumber. Projects should not be removed from the schoolhouse until settlement is made at the lumber yard. If lumber is furnished by some farmer for a large project a number of boys may work on it, altho each boy should be held responsible for a particular task or only a few will do most of the work.

Students who learn how to order and buy lumber in small quantities when they are in school will have little trouble in making larger purchases later on.

Applied Farm Mechanics

R. M. WILLIAMS,
Vocational Agriculture Instructor,
Attica, Ohio

MY SON and I were planning on remodeling the laying house and after some time of worry and wondering what I was going to do, my son said, 'Dad, I can do this work for you.'

"As I had never had any special work in carpentry I told him to go ahead and I would help as much as possible. I believe the work that Wilbur got in the shop class will always be of use to him."

This is what one of many fathers is saying about the shop work in our community.

Each fall we make a thoro study of the various types of brooder houses. These plans are submitted to persons who are interested in having one built. After selecting the type of house, our class visits the lumber yards and studies the various types of lumber and where each is to be used to the best advantage. The class is then divided into groups of three or four, according to the size of the class. Each group has a foreman who holds his job for two or three days. These foremen are alternated until each member in the class has acted as such. The foremen are responsible for the remainder of the class and for ordering the lumber as needed.

We feel that three goals are reached: First, that the boys are given practical instruction and feel the responsibility of building something that has a dollars and cents value to the farm; second, some patron of the school has the opportunity to purchase, at a slightly reduced price, a substantial brooder house that he needs and might not otherwise buy; third, it sells the idea of vocational agriculture.



The New Shop at Muscatine, Iowa



Future Farmers of America



Illinois Future Farmers Successful First Year

J. E. HILL, State Supervisor of Agricultural Education, Illinois

THE second annual convention of the Illinois Association of the Future Farmers of America, held at the University of Illinois June 18, 19, and 20, marked the end of the first year of the Future Farmer movement in Illinois. During the year an unusual growth occurred both in the number of chapters organized and in the interest aroused in the mind of the public. One hundred fifty-six chapters were organized with a total paid-up membership of 3,014 boys.

For the purposes of administering vocational agriculture, the State of Illinois is divided into 12 different sections with one of the teachers as chairman of each section. This plan was followed in the organization of the Illinois Association of Future Farmers of America, and a vice-president was elected to be in charge of the Future Farmer activities in each of the sections. Each vice-president is responsible for the special activities within his section, as well as the promotion of additional chapters. He is completely responsible for the organization of sectional contests, picnics, and so forth. In addition to having charge of the section activities, the president is a member of the executive committee of the Illinois Association, and represents his section in that committee's deliberations.

A Monthly Newsletter

The program and activities of the Illinois Association for the first year were not very extensive. However, interest is developing and the program will be enlarged as its successful operation seems probable. During the past year, the Reporter has collected news from the various chapters in the state, and issued a news letter at intervals of once a month. This news letter has been of general interest and received the endorsement for its continuation at the state meeting just completed.

The public speaking contest was the most important activity fostered by the Illinois F. F. A. for the year just ending. Each of the 12 sections in the state, under the direction of the sectional vice-president, organized and conducted a section public speaking contest for the F. F. A. members. Approximately one hundred different chapters had representatives in these 12 section contests. Gold, silver, and bronze medals were presented by the Illinois Association to the three highest ranking contestants in each section. The 12 winners of the section contests competed in the state contest held at the University of Illinois in connection with the state convention of the Illinois F. F. A. The

winner of the state public speaking contest, Ivan Peach of Walnut, Illinois, was presented with a large, beautiful silver loving cup, by Governor Louis L. Emmerson. The Illinois Chamber of Commerce has agreed to pay the expenses of the Illinois representative to the national contest to be held in St. Louis at the time of the National Dairy Show. The Illinois F. F. A. presented silver loving cups to second and third ranking contestants in the state contest.

Promotional Activities

One of the purposes of the Illinois Association F. F. A. is to promote interest in vocational agriculture. There is no doubt but that the organization during the past year has done considerable in accomplishing this purpose. At the State Farmers' Institute last winter, the president of the Illinois Association F. F. A., one of the American Farmers from Illinois, and the Reporter of the Illinois Association appeared on the general program. Their talks were exceptionally well received and did much to arouse interest in the F. F. A. movement and vocational agriculture, in general. Both the Central Illinois State Fair at Aurora, and the State Fair at Springfield have arranged for Future Farmers exhibits. The Pure Milk Association of Chicago, an organization of 1,600 dairy farmers, became interested enough in the Future Farmers movement to offer purebred dairy calves to each Future Farmer who makes the degree of State Farmer thru his dairy interests. At the state convention just ending, four State Farmers were voted as qualified to receive these purebred calves.

At the Illinois F. F. A. convention, ending June 20, the following general officers were elected:

President, Randall Hart, Beardstown; Secretary, Ivan Hieser, Minier; Reporter, Kenneth Denman, Antioch. Thirty-two members were elected to the degree of State Farmer, and four members were recommended for the American Farmer degree. Approximately two thousand people attended the final meeting of the convention, at which time the state champion in the public speaking contest was selected. The Honorable Francis G. Blair, state superintendent of public instruction, made the general address of the evening. Stuart E. Pierson, director of the State Department of Agriculture, represented Governor Emmerson in presenting the Governor's cup to the winner in the public speaking contest. The Lake County Future Farmers chorus of 30 boys, and the members of the George-

town chapter furnished the musical programs for the convention.

The accomplishments of the Future Farmers organization in Illinois during its first year of existence, the interest on the part of the members, and the interest in the movement aroused in the mind of the general public all point to the value of the Future Farmers organization. The Illinois Association of Vocational Agriculture Teachers voted to establish a Future Farmers chapter in each of the 220 departments of vocational agriculture in the state during the coming year.

F. F. A. Banquets

I WISH the census enumerators would ask one more question of farmers. It would be, "Did you and your son attend an F. F. A. Father and Son Banquet this year?" The total number counted would, I am sure, be very large, for in every F. F. A. newsletter that comes across my desk there are mentioned several of these banquets.

And the reports are interesting reading. Usually they tell how the boys themselves staged the affair and conducted the meeting. Many, however, show that the teacher is doing too much of the work. This is not so good, for we must remember that the F. F. A. is a boys' organization, and if we are to develop leadership the boys must get practice in running such affairs.

In most reports I find that the Home Economics Department serves the meal. This is a good tie-up.

"Welcome to the Dads," "Response From the Dads," are on a program staged at Bryan, Texas. This response from the dads should always be on the program; it is one way for us to learn what the dads think of our work.

Recently I attended one of these banquets where the meeting was opened and closed with the regular F. F. A. opening and closing ceremonies. I watched the dads and I know they were impressed by these ceremonies.

"Reports of Projects" is another topic I frequently find on the programs. We cannot tell the dads too much about this important activity. It is well to bring out on these occasions that "Johnnie's calf should be Johnnie's cow." Full project ownership should be the aim in our supervised practice.

The other day I saw mention of a Parent and Son Banquet with the mothers included. I have often wondered why we should keep the mothers out of these affairs. They are just as much interested in the boy as are the dads.—H. O. Sampson.

First Annual Pacific Region F. F. A. Public Speaking Contest

W. T. SPANTON, Federal Agent for Agricultural Education, Pacific Region

THE first regional public speaking contest for students of vocational agriculture who are members of the "Future Farmers of America," was held in the auditorium of the Phoenix Union High School, May 6, at 8 o'clock. Nine boys participated in the contest from as many different states in what is known as the Pacific region. The boys who competed and the subjects of their addresses were as follows:

Edward Paxton, Bakersfield, California—"What my home project work in vocational agriculture has taught me about farm operation and management."

Glenn Walker, Lyman, Wyoming—"Our public domain, and why it is so important to us in the West."

Douglas Bryan, Dayton, Oregon—"The machine age and its effect on American agriculture."

Kenneth Morris Ward, Malad, Idaho—"Equalization of taxes as a farm relief measure."

Frank Eager, Phoenix, Arizona—"Co-operative marketing as a solution of farm problems."

Robert Jones, Ogden, Utah—"The future of the American farmer."

Wm. J. Burch, Hagerman, New Mexico—"Co-operative marketing as a solution of farm problems."

Gleaves Anderson, Overton, Nevada—"Co-operative marketing as a solution of farm problems."

Dan Pendegast, Montana — "The Federal Farm Board."

Jones of Utah Wins

Preliminary to winning the right to represent the state in this contest, a local contest was held in each of the several chapters of the Future Farmers of America thruout each of the several states. The champion speaker for each chapter was selected and a state-wide elimination contest was held to select the boy to represent his state in the regional contest. As a result of this last contest Robert Jones of Utah was declared the regional winner. He spoke upon the subject, "The Future of the American Farmer." Edward Paxton of California was declared the winner of second place, speaking on the subject, "What my home project work has taught me about farm operations and management." The boy taking third place was Gleaves Anderson of Nevada, who spoke on the subject, "Co-operative marketing as a solution of farm problems."

In the final contest Robert Jones will be competing with three other boys who have been selected in a similar manner to represent each of the three other regions of the United States. This contest will be held in the Shrine Auditorium in Kansas City and the contest itself will be broadcast over a nation-wide hook-up of the Columbia Broadcasting system consisting of about seventy-five broadcasting stations. Plans are being made so that on the night of the national contest each of the local

chapters of the Future Farmers of America, scattered all over the United States, will hold in its local community a Father and Son banquet and will be equipped with a good radio receiving set so that Future Farmer boys all over the United States may join in one big party and listen in on the final national contest.

The winner in the national contest will receive a cash prize of \$500, while the boys who win second, third, and fourth places will receive \$300, \$200, and \$100, respectively. These prizes are given by Senator Arthur Capper of Kansas, editor and publisher of the Capper papers. In addition to this, Senator Capper will pay all the traveling expenses to and from Kansas City, together with hotel expenses of each of the four boys who represent the regions in this national contest.

Speakers Well Prepared

The selection of the three highest boys in the Phoenix contest was an extremely difficult task because of the fact that the general quality of the speeches given by all of the nine competing boys was of a very high caliber. The judges were Dr. H. L. Shantz, president of the University of Arizona; Dr. Grady Gammage, president of the State Teachers College at Flagstaff; and Associate Judge A. G. McAllister, of the Arizona Supreme Court.

Since one of the primary objectives of the organization of the Future Farmers of America is to provide activities for farm boys which will more adequately prepare them for positions of rural leadership, I am frank to say that I know of no other activity or contest which will be so effective in the stimulation of a desirable type of rural leadership as that provided by this series of local, state, regional, and national public speaking contests on vital agricultural subjects. We all recognize that the farmer of today who has the ability to speak both logically and forcibly before large and small audiences, particularly gatherings of farm people, is the man who is looked to and generally regarded as the leader in his community. The training afforded the young men taking part in these contests, develops self confidence, poise, quick thought, easy expression, and a broad knowledge of the vital problems in agriculture.

THE USUAL MODE

Nothing could more effectually destroy the pupil's interest than the deadly monotony of the usual question and answer mode of recitation based on the assignment of certain pages in a textbook. Such a recitation destroys any originality, curiosity, or spontaneity that a pupil may possess, and the child who is naturally an investigator to begin with becomes in the end a mere passive recipient of prescribed orthodoxy. —Alfred Vivian, Dean of Agriculture, Ohio State University.

An Interesting Letter

HERE is an excerpt from a letter written by a vocational agriculture teacher out on his first job. It is addressed to the professor of agricultural education under whom he took his training.

It is worth study. Read between the lines and forecast the success of this man. He seems to show the stuff that good vocational teachers are made of:

"Dear Prof:

"With the second week gone, guess I'll write in and tell you part about it. Again I want to thank you for this chance and for the time and help you gave me.

* * * *

"As far as liking the community, it is the best I've ever been in. The farmers are willing to try anything and if left alone I can do a lot of good work here. But can I do satisfactory work and have to fight all the time to keep from being dragged into a town scrap?

"Have the class work going fine; 1,350 little chickens to be here Monday. Brooder houses all built, floors sanded, feed mixed, and everything ready. All projects started and the boys know what they are doing. Foundations laid for a community program of improvement; 17 new students already signed up for next year, and their dads sold on the idea. Have seven coming from — that good community we noted about sixteen miles north of here.

"Farm people here are the best I ever saw. Just as an example, I went out to one boy's project a week ago today. Found a typical hill farm. A log barn and a three-room house you could see thru anywhere. The "Old Lady" was working in the garden when I drove up, barefooted and ragged.

"The 'Old Man' and boy were fighting a forest fire about two miles over in the timber. A ragged, dirty-faced youngster about six took me to them. How he found the way beats me, but he did. Jumped along barefooted from stone to stone so fast I could hardly follow him. He told me on the way over how they had lived on cornbread and milk lots of days this winter so the boy and girl could have money enough to buy overalls and gingham dresses to wear to school. They walked eight miles to school every morning and back in the afternoon.

"We found the men folks. The dad was a typical old-timer, and pretty cold toward me. I knew that the boy by some means had saved \$20 and wanted to buy some more sheep, but his dad wouldn't let him. In the process of conversation while we were fighting fire, I suggested that it would be nice if Herbert could buy two or three more sheep. No, the old man said, they needed the money worse for something else. Well, I shut up and waited for a chance. Pretty soon it came. The "Old Man" wanted to know how it would be with me if he kept Herbert out of school a day or two a week during the planting season as he needed him so

badly. I said there was no better education in the world, and I was more than willing if the superintendent was, but that I thought the boy should have some pay for it. How would it be to let him buy some more sheep with the money he had saved and in return he could help put in the crop?

"Then I learned the truth of the matter. Benton (the previous teacher) had gone out there and told them that project stock had to be registered stuff. Imagine it, on a farm where buying a single-bottom riding plow this year was the grandest event the old man had ever had happen to him. Well, we started to the house about then and on the way I showed them how they could start slowly and gradually build into the sheep business, and how in a few years after they had made some money they could buy a few purebreds and gradually change if they wanted to. Say, that was the most tickled man I ever saw in my life.

"We reached the house and dinner was ready, and I had to stay. And by gosh! I mean to say I *had* to stay. We ate and before we left the table we had drawn up plans for a chicken house (they now roost in trees). He is now sawing the lumber for it and also for a new house and barn.

"They are poor; beds have nothing but a homemade husk mattress; three homemade chairs. A homemade table, and the six little kids line up on a homemade bench at one side. But they are sold, and you mark my word I can make them the outstanding example of vocational agriculture in _____ County. A \$200-project there will mean more to me and to them next year than a \$2,000-project would mean to _____ or _____, with the boys they have to work with.

* * * * *
"Very truly yours,
—J. K. L."

Helpful Suggestions on News Writing

Good Writing Is Grammatical

Principle 1: Use of who or whom; which, that; shall and will; and so forth. What are *your* most common errors?

Principle 2: Verbs and pronouns agree in number with their subject. Collective nouns are singular. Singular subjects joined by or or nor take singular verbs. Singular and plural subjects joined by or and nor take the noun of the last named. Each, either, someone, everyone, everybody, none, take singular verbs. Don't, a contraction for do not, agrees accordingly.

Principle 3: Pick a person and stick to it.

Good Writing Is Strong Structurally

Principle 4: Paragraph decisively. Fifteen words is a long sentence. One hundred words is too long a paragraph. Begin as a rule every paragraph with a summary lead, carry the thought forward a step at a time in a sentence at a time.

Principle 5: Avoid two-way pronouns, loose relatives, and all such trouble-makers. Ex. He was buried beside his wife who died six years before which was his wish. Going to the barn Monday morning, a horse was found missing by Andy Little.

Principle 6: Start sentences with words that say something. Avoid a or the, there is, and such as first words.

Good Writing Is Incisive

Principle 7: Put negative statements in positive form. Not is seldom a strong word; but antithesis, never and none are. Ex. Not He was not very often on time. But He usually came late.

Principle 8: Unless the verb has life, the sentence is dead. Not This would seem to show But This indicates. Not He gave utterance again to the thought But He repeated. Not He spoke in a mocking, deriding manner. But He jeered.

Principle 9: Shun the use of the passive voice. Not The meeting was attended by a crowd of 900. But Nine hundred came. Not Confirmation of the rumor has not yet been obtained. But The rumor remains unconfirmed.

Principle 10: Drive straight to the period. Avoid detours. Brevity vs. "Bostonese." Not In many cases children were in an undernourished condition. But Many children were undernourished. Not He was conveyed to his home in an intoxicated condition. But He was carried home drunk. Not In the near future. But Soon or shortly. Not Held a conference; held a meeting. But Conferred; met. Not Gave a talk; made a speech. But Talked; spoke. Not There is no doubt; but that But No doubt.

Principle 11: Despise vague and abstract words. Prefer rough words that throw pictures to nice words that do not. Not He showed signs of confusion. But He blushed and squirmed. Not A period of unfavorable weather set in. But It rained every day that week. Not Evidences of gratification were not lacking when the audience was given a chance to contribute. But When the hat was passed, the crowd put in \$387. Not Evidences of displeasure were manifest as the performer hurriedly left the hall. But Some hissed, others threw eggs, the saxophone player jumped out the window.

Principle 12: Write as you would say it, only better.

Principle 13: The only way to write is to write. The only way to write well is to re-write.

Principle 14: Good writing is correct, compact, incisive, individual, and therefore straightforward and clear.

What to Write About

Develop the ability to recognize news when met.

- The tendency is to see only the rare item, the exceptionally brilliant accomplishment.

Every step in the development of every project is news.

It is news when a meeting has been held; a field trip conducted; a project planned.

Results of a demonstration, contest, project, constitute news.

A mine of news is found in personal happenings.

How to Write

In the first sentence tell *who*, *what*, *when*, and *where*, and sometimes *how* and *why*.

Arrange the order to provide emphasis where needed.

Play up the *new* and *interesting* features.

Tell the facts and let them speak for themselves; or rather, quote someone. Avoid "quotitis."

Words implying opinion are also to be avoided, such as an *interesting* meeting, *inspiring* speaker, *marvelous* demonstration, *splendid* spirit, *delicious* supper, *superb* lecture. State the fact—The crowd stayed an hour overtime—and let the reader judge whether or not the meeting was interesting.

Use figures; not gushing adjectives.

Avoid giving facts regarding a person that places him in a bad light. State the fact, if desirable, but omit the name.

Never apologize for work undone, poorly done, for lack of interest, for low attendance, or anything else in a news story.

Keeping the Problem Real

(Continued from page 41)

"Then how are we to ascertain what results could be obtained from the other 28 varieties?" asked Mr. Smith. This question produced some little silence on the part of the group as they thought over the matter. Finally one man suggested, "The experiment stations over the state should be able to give us information for comparison." This suggestion met with the instant approval of all the class.

Mr. Smith then produced several charts, on which were shown results obtained from the experiment stations. These charts were printed in large figures so that they might be easily read by the members of the class. Mr. Smith stated that no variety had been listed on the charts which had not been tried at least three times in the last five years. He further stated that the chart showed the results from each of the hill experiment stations for the past 12 years. Mr. Smith then proceeded to explain the charts in detail. Lint per acre being considered most important factor, a chart comparing the lint per acre of 34 cotton varieties was thumbtacked on the wall. A close inspection was made of the average yields of lint per acre from all the hill experiment stations in the state. The class agreed upon a minimum yield per acre of lint and decided that all varieties that did not measure up to this yield per acre would be eliminated. Mr. Molpus of the class called out each variety that produced more lint per acre than was decided upon as a minimum, which Mr. Smith wrote down on one of the blackboards. There happened to be 10 varieties that produced more.

Staple length was the next factor to be considered. The group decided that a one-inch staple would very likely prove most profitable for them. The farmers therefore decided any of the 10 varieties which fell below one-inch staple should be eliminated.

This process of elimination was continued thru each of the six factors under consideration, until the class had decided upon a variety that would produce a better quality and greater amount of cotton.

The farmers made their own decisions, being guided by the suggestions of Mr. Smith, who served more or less as a leader of the discussions permitting the farmers to give voice to their own views and to reach their own conclusions.

